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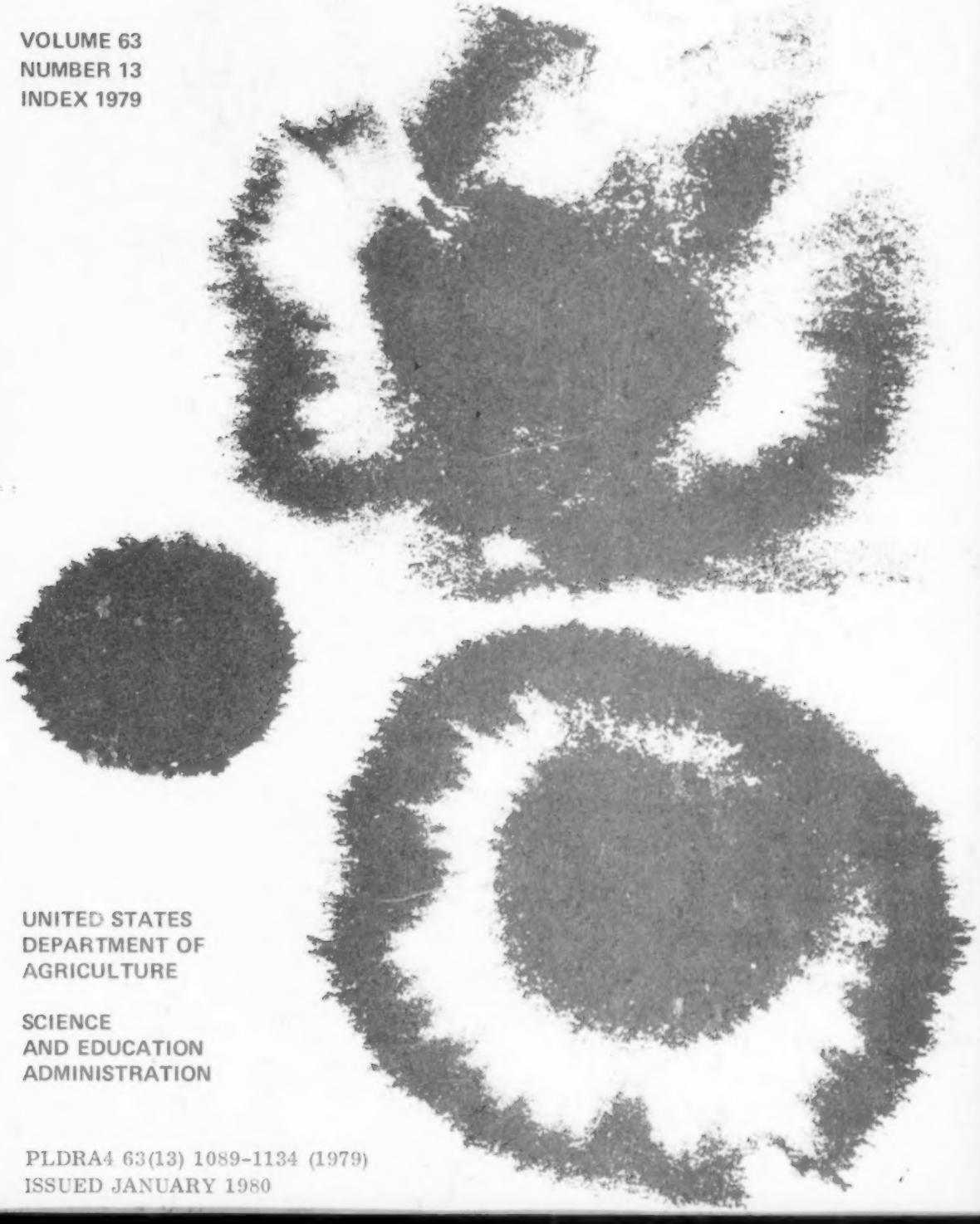

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Forage legumes: Sclerotium rolfsii is reported for the first time as a pathogen of tropical forage legumes including several lines and species of Stylosanthes, in Colombia, S. A., 739
Forecasting: potato late blight: a simplified non-computerized program has been developed for New Hampshire weather conditions, 21
Forest tree nurseries: Phytophthora spp.: in the Pacific Northwest, poor sanitation practices, movement of infested stock within and between nurseries, and poorly drained beds contribute to higher incidence of root rot caused by Phytophthora species, 607
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pennsylvanica: moderate susceptibility to Verticillium dahliae occurred in F. pennsylvanica after twig inoculations, 328
Fremontia californica (flannel bush): Phytophthora nicotianae var. nicotianae caused crown rot, basal stem canker, and rot of the larger roots of a 2-year-old flannel bush plant; this is the first report of the pathogen on F. californica, 721
Frost damage: corn seedlings sprayed with bacterial suspensions of Erwinia stewartii showed increased frost damage relative to control plants when subjected to subfreezing temperatures for an hour, 751
Fuchsia hybrida: Pucciniastrum epilobii, the cause of fuchsia rust, has been found for the first time on the island of Hawaii on F. hybrida bushes; although natural infection at present is limited to F. hybrida, naturalized Fuchsia magellanica was susceptible when inoculated with P. epilobii uredospores, 136
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asparagus: seed treatment with several fungicides before planting in western Michigan soils did not significantly improve emergence or survival of asparagus seedlings in a field infested with Fusarium oxysporum f. sp. asparagi and F. moniliforme, 612
coffee: copper sulfate, cuprous oxide, and copper hydroxide were the most effective of 10 fungicides tested in the laboratory for control of Hemileia vastatrix on coffee leaves, 844
cotton: for seedling disease control of Pythium ultimum, ETMT and fenaminosulf gave best results; benomyl controlled Thielaviopsis basicola; but knowledge of both kinds and populations of pathogens involved in a seedling disease complex at a given location would help in development of more effective combinations of fungicides for control, 246
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cucumber: PCNB and thiabendazole at elevated rates gave the best control of cucumber fruit rot, but none of the 12 fungicides tested gave adequate fruit rot control for all (4) harvests, 482
Poa pratensis (Kentucky bluegrass): RP-26019, anilazine, maneb, and chlorothalonil provided excellent disease control of leaf spot, caused by Bipolaris sorokiniana, by inhibition of germ tubes and

Fungicides (Poa pratensis) (continued)
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potato: metalaxyl, zinc ion-maneb complex, and chlorothalonil suppressed epidemic development of late blight when applied before epidemics were established, but only metalaxyl retarded infection 2 days after infection began, 970
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Fungicides (specific):
2-aminobutane: fresh blueberries precooled, dipped in 2-aminobutane, and cold-stored in modified CO_2 atmospheres had significantly less decay after 4 to 10 days than untreated berries, 1049
anilazine: provided excellent disease control of leaf spot disease of Kentucky bluegrass, caused by Bipolaris sorokiniana, 474
BAS 389: this experimental fungicide, when applied to cottonseed, was highly toxic to Rhizoctonia solani but because of its specificity to R. solani, it may have to be used together with other fungicides in the field to control seedling diseases caused by other pathogens, 569
BAS 35204: produced zones of inhibition on agar plates for all benomyl-tolerant Penicillium expansum strains tested, that were collected from N. Y. apple packinghouses, 37
Bay Meb 6447: gave excellent control of black rot on grape (caused by Guignardia bidwellii) with a post-infection application program, 967
Fungicides (specific) (continued)
benomyl:
apple:
benomyl-tolerant isolates of Penicillium expansum:
benomyl-tolerant isolates were recovered from 8 of 14 apple packinghouses in N. Y. and were also tolerant to other benzimidazole fungicides, 37
combinations of captan and the full recommended rate of a benzimidazole fungicide should provide the best currently available protection against blue mold where benomyl-tolerant P. expansum isolates are present, 1033
gave good control of leaf scar infection caused by Nectria galligena in 2 of 3 years when applied as early and late leaf fall applications, 998
dogwood: benomyl injected into potting mix of containerized 1-year-old red-osier dogwood provided complete protection against water stress predisposition to Botryosphaeria dothidea canker, 896
Elsinoë fawcettii: the major action of benomyl in preventing new infections of scab (caused by E. fawcettii) on new shoots of citrus was through an antisporulant action on existing scab pustules, 553
soybean: benomyl applied at a rate of 1.2 g/liter to soybean pods either 3 days before or on the day of artificial inoculation with Phomopsis sp. greatly reduced both pod and seed infection; when applied 3 days after inoculation it was less effective, 675
bordeaux: afforded satisfactory control of leaf scar infection by Nectria galligena, 998
captafol:
apple: gave excellent control of leaf scar infection by Nectria galligena, 998
cowpea: foliar application of captafol at 1.64 kg a.i./ha effectively controlled web blight of cowpea, caused by Rhizoctonia solani, and completely suppressed symptoms of Cercospora leaf spot in Nigeria, 574

Fungicides (specific) (continued)
grapefruit: as a trunk paint at 60 mg/ml on young grapefruit trees, captafol was highly active against Phytophthora parasitica zoospores, 324
carbendazim:
cucumber: carbendazim + maneb controlled leaf blight of cucumber caused by Corynespora cassiicola, in Mexico, 599
pear: carbendazim injected by pressure into the trunks of pear trees in the autumn was translocated into the crown and branches, but early spring scab infections (by Venturia pirina) were not prevented; later in the season fungicide translocation increased and late scab infections were prevented, but with no appreciable control of scab on fruit, 376
Zizyphus mauritiana leaf spot disease: was the most effective fungicide tested in reducing infection by Phoma macrostoma on jujube, 678
carboxin + thiram: barley seed harvested at varying moisture contents and treated with carboxin + thiram showed significant stand and yield responses; fungicide treatment had a greater effect on stand than on yield, 88
CGA-29212: in vivo resistance to CGA-29212 by Phytophthora infestans strains did not develop after their prolonged exposure to sublethal doses of CGA-29212 on agar or potato plants, 385
CGA-38140: prolonged exposure of Phytophthora infestans to sublethal dosages of CGA-38140 on agar or on potato plants failed to produce strains of the fungus with in vivo resistance to the chemical, 385
CGA-48988 (see metalaxyl)
chlorothalonil:
a new leaf blight disease of cucumber in Mexico caused by Corynespora cassiicola was controlled with 5 weekly sprays of chlorothalonil, 599
chlorothalonil inhibited germ tube elongation and appressorium formation of Bipolaris sorokiniana on 'Park' Kentucky bluegrass, 474
copper: bordeaux, basic copper sulfate, and an organic copper complex were effective against apple leaf scar infection by Nectria galligena if properly timed, 998
copper ammonium carbonate: was highly active for at least 186 days when applied as a trunk paint on young grapefruit trees as a protectant against Phytophthora parasitica, 324
copper oxychloride:
gave good control of a new leaf spot disease of Zizyphus mauritiana (jujube) in India caused by Phoma macrostoma, 678
was more effective than antibiotics, mycobacillin and versicolin, for control of brown leaf spot disease of rice, caused by Helminthosporium oryzae, 103
cypendazole: benomyl-tolerant strains of Penicillium expansum collected from apple packinghouses were also tolerant to cypendazole, 37
ethephon: ethephon, a plant growth regulator, sprayed on highbush blueberry plants 4 to 8 days before harvest reduced postharvest rots on berries, 44
ethylene diurea: at 1000 ppm + 0.10% Triton-X, applied weekly, ash and black cherry seedlings were afforded excellent protection against O_3-induced leaf injury at repeated exposures of O_3 below .30 ppm, 320
ferbam:
8 of 13 adjuvants in combination with ferbam with 5 cm artificial rain gave superior control of fusiform rust on slash pine seedlings; without artificial rain none was superior, 507
sprays with ferbam effectively controlled fusiform rust of pine seedlings (Pinus elliottii and P. taeda) in both greenhouse and nursery tests, 270
maneb: gave excellent control of leaf spot on 'Park' Kentucky bluegrass, 474
maneb-zinc: gave good control of a new leaf blight disease of cucumber in Mexico caused by Corynespora cassiicola, 599
metalaxyl (CGA-48988):
cabbage: was the most effective systemic fungicide tested for control of downy mildew and insects on cabbage transplants grown for seed production, 131
corn: sugarcane downy mildew was

Fungicides (specific) (continued)
completely controlled in corn with seed treatment with metalaxyl; sprays with the fungicide also controlled the disease but were less effective than seed treatment, 986
grapefruit: applied as a trunk paint, metalaxyl protected the trunks, twigs, and leaves of grapefruit trees against Phytophthora parasitica zoospores, 324
pea: reduced seed rot of pea, caused by Pythium ultimum, in the greenhouse and in the field, 725
potato:
prolonged exposure of potato late blight fungus, Phytophthora infestans, to sublethal dosages of metalaxyl on agar or potato plants failed to produce fungus strains with in vivo resistance to the fungicide, 385
was effective in retarding epidemic development of potato late blight within 2 days after epidemic was in progress in New York and also prevented many tuber infections, 970
tobacco: controlled blue mold of tobacco, caused by Peronospora tabacina, for the entire crop life in Australia, 212
NC 5936: had some effect on powdery mildew on begonia caused by Oidium begoniae, but at rates used it was insufficient for control, 919
oxycarboxin: foliar spray at the rate of 0.16 kg a.i. /ha effectively controlled web blight of cowpea in Nigeria and yields were increased significantly, 574
phosphoric acid + dodecylbenzene sulfonic acid (PA+DSA): exhibited only limited potential for control of Penicillium digitatum on citrus and none for Erwinia carotovora on bell pepper when used as a drench for control of postharvest decay, 753
pyrazophos: weekly protectant sprays controlled powdery mildew of begonia, caused by Oidium begoniae, 919
R-23979: macroscopic and scanning electron microscopy showed that on oranges artificially infected with Penicillium italicum, and then treated with R-23979, a marked reduction in fungal infection
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RP-26019:
effectively controlled leaf spot of 'Park' Kentucky bluegrass, caused by Bipolaris sorokiniana, 474
produced large zones of inhibition on agar plates for all benomyl-tolerant isolates of Penicillium expansum collected from apple packinghouses, 37
SN 43410: foliar sprays of systemic fungicide SN 43410 effectively controlled fusiform rust of pine seedlings in greenhouse tests, but were ineffective in nursery tests, 270
sulfur: gave late season control of powdery mildew of sugarbeet in Idaho when initial infection developed before September 1, 239
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benomyl-tolerant strains of Penicillium expansum collected in apple packinghouses were also tolerant to thiabendazole, 37
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moniliforme var. subglutinans: 655; 1023
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oxysporum f. sp. apii: 165
oxysporum f. sp. asparagi: 612
oxysporum f. sp. niveum: 1003
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semitectum: 84
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Ganoderma sp.: 705
Geographical distribution:
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Germ tube elongation: Bipolaris sorokiniana: inhibition of germ tube elongation by fungicides is critical for effective control of leaf spot of Kentucky bluegrass, 474
Germination: aging of about 2 years increased the percent germination of teliospores of Urocystis agropyri, 841
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Ginkgo biloba: was a nonhost of Verticillium dahliae in twig inoculations, 328
Gladiolus:
virus:
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tomato spotted wilt is the cause of a serious disease of gladiolus found in Australia, 345
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Glume blotch (see Blotch)
Glycine max (see Soybean)
Gossypium hirsutum (see Cotton)
Gouldia terminalis: a plant endemic to Hawaii was highly tolerant to Phytophthora cinnamomi in greenhouse tests, 602
Grape:
black rot (caused by Guignardia bidwellii): Bay Meb 6447 provided excellent foliar and fruit rot control when used in a post-infection control program in Oregon, 967
Eutypa dieback: dieback, caused by Eutypa armeniacae, is reported for the first time in Mexico in the main grape-growing areas, 312
Ganoderma sp.: was constantly associated with a new disease on trellised grapevines in Durango, Mexico; sporulating basidiocarps of Ganoderma were usually attached to the base of untreated, rotten wooden post supports (made from Tabebuia, Macluria, Lysiloma, or Pithecellobium trees) brought from forests in Mazatlan, Sinaloa, Mexico, 705
nematodes: DBCP was the best of four nematicides tested for reduction of citrus nematode populations in Florida grape plots and did not interfere with mycorrhizal fungi associated with grape roots; foliar sprays of oxamyl resulted in less fruit rot loss, 729
Grape (continued)
Pierce's disease: the presence of Pierce's disease in Vitis vinifera and V. labrusca plantings in Costa Rica was confirmed; this is the first report of Pierce's disease in tropical America, 788
virus:
a comparison of ELISA assay and Chenopodium quinoa indexing for detection of peach rosette mosaic virus in 'Concord' grapes showed the latter method to be more reliable, 74
indexing procedures recommended for new USDA cultivars, 848
results of virus detection tests for 396 introductions of Vitis from 27 countries, 1968-1978, 775
Gray leaf spot: of St. Augustinegrass, caused by Piricularia grisea, was severe in four locations in Mississippi, 852
"Green death": Phytophthora drechsleri was identified as the causal agent of crown rot of cantaloup, known locally in Iran as "green death," after isolation of the pathogen by a baiting technique, 1084
Gremmeniella abietina (Scleroderris lagerbergii): 194; 995
Guar (Cyamopsis tetragonoloba): winter wheat double-cropped with guar on the Rolling and High Plains of Texas had less common root rot than winter wheat double-cropped with mung bean, sorghum, or grown without a second crop, and higher yields were obtained when cropping systems were irrigated, 811
Guava (Psidium guajava):
Myxosporium wilt:
a very destructive disease in Taiwan is caused by a wound parasite, Myxosporium psidii; control measures include rogueing diseased trees and protecting open wounds with fungicides, 1075
inoculation tests indicate that the fungus invades guava trees only through wound sites; therefore protection of wound sites with fungicidal spray and prompt removal of infected trees are recommended, 1077
Guignardia bidwellii: 967

Heat treatment: heat treatment of margins of Phytophthora gummosis lesions to 60°C and above on

Heat treatments (continued)
rough lemon rootstock killed the fungus and the trees recovered fully, in South Africa, 40
Helianthus annuus (sunflower): Rhizopus arrhizus and R. stolonifer are the pathogens of Rhizopus head rot of cultivated sunflower in Texas, 833
Helicotylenchus:
dihystera: 113; 807
multicinctus: 663; 744
pseudorobustus: 663
sp.: 267; 1063
Helminthosporium:
maydis: 419; 891; 975
oryzae: 103
sativum: 227; 1020
spp.: 852
turcicum (Trichometasphaeria turcica): 424
Hemileia vastatrix: 844
Heterodera glycines: 267; 558
Historical analysis: of fire blight epidemics of pear in the Central Valley of California, 545
Homalodisca sp.: 788
Hoplolaimus:
columbus: 859
galeatus: 1063
Host range:
of an American isolate of Peronosclerospora sorghi, 650
of cucumber mosaic virus of banana, 138
of Olpidium brassicae in Central Brazil, 10
of Scutellonema brachyurum: 688
Hosts:
of Orobanche (broomrape), Cuscuta (dodder), and Viscum (mistletoe) in Jordan, and the severity of their infestations at various locations, 1025
of plant-parasitic nematodes that occur in Malawi, 945
Hylemya brassicae: 131

Ilex spp. (holly): I. cornuta cvs. Rotunda and Burfordi and I. vomitoria var. nana (dwarf yaupon) hollies were tested for their responses to combinations of plant-parasitic nematodes; dwarf yaupon was the most tolerant, followed by Burfordi; the more tolerant plants are good replacements for Japanese hollies that are very susceptible to nematode damage, 113
Impatiens holstii: a strain of tobacco ringspot virus was identified as the causal agent of a disease of Impatiens occurring in commercial greenhouses in Minnesota and Iowa, and characterized by leaf mottling and reduction in plant growth, 258
Importations: detection of viruses or virus-like agents in vegetatively propagated plant importations under quarantine in the United States, 1968-1978, 775
Indexing: recommended virus-indexing procedures for new USDA small fruit and grape cultivars, 848
Ipomoea: results of virus detection tests for 50 introductions of Ipomoea batatas to the United States from 8 foreign countries, 1968-1978, 775
Iris ensata var. hortensis: served as a source of inoculum for bacterial foot rot of rice caused by Erwinia chrysanthemi, with the dissemination to rice through irrigation water, in Japan, 100
Irrigation: trickle irrigation, combined with soil fumigants and film-mulch, decreased nematode populations and increased yields of polebean 'Dade' in Georgia tests, 360

Juglans nigra (black walnut): the pathogenicity of Cristulariella pyramidalis on black walnut (Juglans nigra) was established, 1028

Kabatiella zeae: 352
Kentucky bluegrass (see Poa pratensis)
Koa (see also Acacia koa): Acacia koa was moderately tolerant to Phytophthora cinnamomi infection in Hawaii, 602
Korthalsella complanata: Teichospora obducens and its Phoma state were found for the first time on this mistletoe on the island of Hawaii and Pleospora sp. was also found on this plant for the first time on the island of Hawaii, 1060
Kresek (see Rice, bacterial blight)
Kutilakesa pironii: this fungus, new to the United States, has been identified as the cause of stem galls and cankers on several ornamental plants in Florida, 1016

Lablab purpureus: is a host of the soybean rust fungus, Phakopsora pachyrhizi, in Puerto Rico; the rust overseasoned in this perennial in the dry season, 931

Leaf:
blight: of cucumber, caused by Corynespora cassiicola, 599
scald: of rice, 773
spot:
bacterial leaf spot of zinnia, 869; 873
Cercospora: of cowpea, 574
Cristulariella pyramidalis on black walnut in Illinois, 1028
Drechslera: on Salvinia auriculata, 154
gray leaf spot of maize, 515
Pestalotiopsis versicolor on bakoli (Mimusops elengi) in India, 806
Septoria:
Septoria brown spot: of soybean, 242
Septoria leaf spot on Phalaris arundinacea (reed canarygrass) spray-irrigated with municipal sewage effluent in Pennsylvania, 796
Stemphylium leafspot of alfalfa in relationship to magnesium content, 741
Lethal decline: Pandanus utilis, a plant in the same subclass as palms was found with mycoplasmalike bodies in sieve elements and with phloem degeneration in areas of Florida where lethal declines of coconut and other palm species are prevalent, 911
Lettuce:
lettuce mosaic virus was inactivated in polyethylene glycol (PEG)-imbibed lettuce seed incubated continuously at 40°C for 6 to 10 days, 125
Olpidium brassicae was found for the first time infecting lettuce and crucifer plants in Brazil, 10
Leucostoma spp.: inhibitory effect of some potato-dextrose agar preparations on germination of pycnidiospores of Leucostoma species, 793
Leucothoë axillaris: a Microsphaera and Cylindrocladium avesiculatum are reported on Leucothoë axillaris for the first time, 358
Liriodendron tulipifera (tulip or yellow poplar): twig inoculations with Verticillium dahliae resulted in moderate susceptibility to the fungus, 328
Longidorus sp.: 91

Macrophomina phaseolina: 927
Macroposthonia xenoplax: 113; 364
Macroptilium lathyroides: is a host of the soybean rust fungus Phakopsora pachyrhizi in Puerto Rico, 931
Macrosiphum avenae: 426
Madrone (see Arbutus menziesii)
Maize (see Corn)
Mango (Mangifera indica): Colletotrichum acutatum causes anthracnose of mango on the North Coast of New South Wales, Australia; it is slower-growing than C. gloeosporioides var. minor, 1067
Manihot esculenta (see Cassava)
Maple (see Acer)
Maranta leuconeura kerchoveana (prayer plant): was found naturally infected with cucumber mosaic virus; the disease is designated maranta ringspot, 32
Medicago:
hispida: is a new leguminous weed host of Meloidogyne naasi in Italy, 644
sativa: (see Alfalfa)
Melampsora medusae: 368
Melilotus sulcata: is a new leguminous weed host of Meloidogyne naasi in Italy, 644
Meloidogyne:
arenaria: 207
hapla: 639; 959
incognita: 360: 663; 744; 859
naasi: 644
spp.: 113; all 43 plant introductions or breeding lines of Tephrosia vogelii, a plant with a possible commercial source of rotenone, were susceptible and no entry appeared to have a useful level of resistance or tolerance to four Meloidogyne species used in the tests, 514; 952
Melting-out (fading-out): of turfgrasses in Mississippi, caused by Helminthosporium spp. and Curvularia spp., 852
Mentha spp.: three peppermint cultivars grown in Indiana were found susceptible to Pratylenchus penetrans for the first time, 91
Meristem culture: meristem-tip and thermo-therapy techniques were used to free several cassava cultivars of African cassava mosaic and cassava brown streak diseases in East Africa, 780
Metrosideros collina ssp. polymorpha (see Ohia)
Microsphaera sp.: 358
Mildew:
downy:
on cabbage: 131
on corn: 621; 986
on shattercane: 154
on sorghum: 154; 650; 905
on tobacco: 212

Mildew (continued)
powdery:
of begonia (Rieger elatior): 919
of cucurbits: 278
of eggplant: 864
of Leucothoë axillaris: 358
of sugarbeet: 239
of tomato: 1087
of wheat: 699
Mistletoe:
dwarf:
Arceuthobium:
pusillum: in a survey of the Lower Peninsula of Michigan for eastern dwarf mistletoe caused by A. pusillum, it was found in less than 1% of the spruce stands surveyed and was not causing serious damage, 532
tsugense: fifty-two of 53 true fir trees having varying degrees of branch mortality were infected with hemlock dwarf mistletoe in west-central Oregon, 189
Korthalsella complanata: two fungi, Teichospora obducens and Pleospora sp., are reported on this mistletoe in the Hawaiian Islands for the first time, 1060
Viscum cruciatum: on olive trees and almonds in Jordan, 1025
Mold:
blue:
of apple: 37; 1033
on citrus: 283
on tobacco: 63; 212
gray: of chickpea in Manitoba, 662
Monilinia fructicola: 793
Muskmelon (see Cucurbits)
Mycoparasite: Scytalidium uredinicola was recognized in Alberta, Canada on western gall rust fungus Endocronartium harknessii on Pinus banksiana and P. contorta; this is a first record of this fungus in Canada, 512
Mycoplasmalike organisms (MLO):
Aralia spinosa: the occurrence of MLO in abnormal Aralia spinosa trees growing in Ozark National Forest in Arkansas, 472
periwinkle: gibberellic acid-drenched periwinkle developed MLO symptoms of plant yellowing, reduced leaf width, and lateral bud release and proliferation, 865
Pandanus utilis: a monocot in the same subclass as palms was found with mycoplasmalike organisms in sieve elements and phloem degeneration in Florida in areas where lethal declines of coconut and other palm species are prevalent, 911
Mycoplasmalike organisms (continued)
Myllocerus curvicornis: 461
Myrsine lessertiana: a plant endemic to Hawaii was moderately tolerant to Phytophthora cinnamomi, 602
Myxosporium psidii: 1075; 1077
Myzus persicae: 51; 161; 877

Naemacyclus minor: 994
Natal plum (see Carissa grandiflora)
Nectria galligena: 998
Needlecast:
Pinus nigra: Naemacyclus minor is the cause of a needlecast on Austrian pine in Pennsylvania, 994
Pseudotsuga menziesii: first report of Rhabdocline needlecast in Wisconsin on Douglas-fir, 626
Nematicides (general) (see also Antibiotics, Chemicals and Fungicides):
greatest yields of polebeans grown in naturally nematode-infested soil came from plants in film-mulched plots treated with DD-MENCS and MBR-CP, 360
the interaction of nematicide application and planting time at 0, 5, and 9-11 days after soil treatment was highly significant with DBCP, carbofuran, and oxamyl, 495
Nematicides (specific):
aldicarb:
controlled Aphelenchoides ritzemabosi in African violet, 378
controlled Helicotylenchus multicinctus and Meloidogyne incognita on bananas in South Africa, and also stimulated increased plant growth, 744
reduced numbers of Pratylenchus hexincisus in coarse and fibrous roots of corn, 55
carbofuran: reduced numbers of Pratylenchus hexincisus in fibrous roots of corn, 55
CGA-12223: reduced numbers of Pratylenchus hexincisus in fibrous roots of corn, 55
DBCP:
reduced populations of Radopholus similis in 30-year-old Valencia/rough lemon orange trees but did not increase yield, 456
significantly reduced Tylenchulus semipenetrans populations in 'Thompson Seedless' grapevine plots in Florida and did not affect mycorrhizal development, 729

Nematicides (specific) (continued)
ethoprop:
as a foliar spray was not effective against root-knot nematodes on red currant, 639
reduced numbers of Pratylenchus hexincisus in corn fibrous roots, 55
oxamyl:
controlled the foliar nematode, Aphelenchoides ritzemabosi in African violet, 378
fruit loss from rot of 'Thompson Seedless' grapes was reduced by oxamyl foliar sprays but populations of the citrus nematode were not appreciably reduced, 729
was not as effective as phenamiphos in control of Meloidogyne hapla on red currant, 639
phenamiphos:
at 2.4 g a.i. per mat (applied 5 times) controlled Helicotylenchus multicinctus in bananas in South Africa but was ineffective against Meloidogyne incognita, 744
foliar sprays of phenamiphos effectively eliminated Meloidogyne hapla from roots of red currant, 639
split applications in Valencia/rough lemon orange-trees in Florida reduced Radopholus similis populations and significantly increased fruit yield, 456
Nematodes (see also individual genera):
burrowing (Radopholus similis): all 31 arecanut (Areca) germplasm collections screened against the banana race of R. similis were susceptible but some had lower root-lesion indices than others and fewer numbers of nematodes per gram of root, 433; 456
Bursaphelenchus lignicolus: 904
citrus (Tylenchulus semipenetrans): 729
cyst (Heterodera glycines): 267; 558
foliar (Aphelenchoides ritzemabosi): were controlled in African violet with aldicarb and oxamyl, 378
lance (Hoplolaimus columbus): 859
lesion (Pratylenchus): 55; 91; 194
plant-parasitic:
host response of hollies and Aucuba to combinations of nematodes, 113
plant-parasitic nematodes in Minnesota apple orchards, 1063
several genera of nematodes were found associated with bananas and plantains in southern Florida, 663
ring:
Criconemoides ornatus: 360
Macroposthonia xenoplax: 364
Nematodes (continued)
root-knot (Meloidogyne): 194; 207; 360; 639; 644; 744; 859; 952; 959
spiral:
Helicotylenchus multicinctus: 744; 807
Scutellonema brachyurum: 688; 859
spp.: plant-parasitic nematodes in Malawi, 945
sting (Belonolaimus longicaudatus): 506; 756
stubby root (Trichodorus christiei): 360
surveys:
cotton fields of South Carolina, 859
Florida flue-cured tobacco fields, 952
Minnesota apple orchards, 1063
plant-parasitic nematodes in Malawi, 945
testa (Aphelenchoides arachidis): 464
Nephotettix:
nigropictus: 784
virescens: 855
Nephthytis (see Syngonium podophyllum)
Nerium oleander (see Oleander)
New diseases on:
bermudagrass (Cynodon dactylon): a previously undescribed white leaf disease of bermudagrass in India, 1072
Fremontia californica (flannel bush): Phytophthora nicotianae var. nicotianae caused crown rot and basal stem canker, 721
grape: colapso, a new disease of grapevines in Mexico is associated with a species of Ganoderma, 705
Impatiens holstii: tobacco ringspot virus was reported naturally infecting Impatiens holstii for the first time, 258
Korthalsella complanata (mistletoe): Teichospora obducens and Pleospora sp. were found for the first time on Korthalsella in the Hawaiian Islands, 1060
Mimusops elengi (bakoli): Pestalotiopsis versicolor caused a leaf spot on this plant in India, 806
Populus tremuloides (aspen): a "drooping" malady of western aspen has been observed in the Rocky Mountain region, but no causal agent has been found in preliminary studies, 923
Rottboellia exaltata (itchgrass): a first report in the U.S. of Curvularia cymbopogonis as a pathogen of this serious weed of soybean from southern Louisiana, 642
Valerianella olitoria (corn-salad): alfalfa mosaic virus was found for the first time on this plant, 820

New distribution of:
Belonolaimus sp., in Nebraska, 506
Botrytis gray mold, on chickpea (Cicer arietinum); first record on chickpea in North America, in Manitoba, Canada, 662
Bursaphelenchus lignicolus, is reported from Missouri causing a wilting disease of pine; the first report of the disease in the U. S., 904
carnation latent virus, found in hardy garden Dianthus spp. in New York; first natural occurrence in North America, 51
carnation necrotic fleck virus, in California, first record in the U. S., 978
Ceratocystis blight, on Syngonium podophyllum in Hawaii, caused by C. fimbriata, 1053
Colletotrichum acutatum f. sp. pinea, found for the first time in Chile on Pinus radiata causing terminal crook, 121
cucurbit powdery mildew, on squash in the Imperial Valley, California; this is the first record for California and possibly for the U. S. as well, 278
Curvularia cymbopogonis, on Rottboellia exaltata (itchgrass) in southern Louisiana; itchgrass is a serious weed of soybeans, 642
Cylindrocarpon cylindroides and Cytospora abietis; first report of these two fungi infecting noble fir or Pacific silver fir in the U. S., in west-central Oregon, and also the first report of Cryptosporium pinicola infecting dwarf mistletoe-infected branches, 189
Cylindrocladium quinqueseptatum and Colletotrichum capsici, as a mixed infection on Eugenia caryophyllata (clove) causing a leaf blight in south India, 536
Diaporthe cubensis, is reported for the first time in Florida, Hawaii, and Puerto Rico, where it is the cause of trunk cankers in Eucalyptus spp., 216
Diplodia pinea, on Pinus ponderosa causing tip blight and dieback, in North Dakota, 464
downy mildew of sorghum: six new counties in Kansas have reported the disease for the first time, 905
dwarf disease of rice, caused by rice dwarf virus, was found for the first time in Nepal, 784
Eutypa armeniacae, the cause of dieback disease of grape is reported in Mexico for the first time, 312
false smut of corn, caused by Ustilaginoidea virens, is reported from India for the first time, 996
Fomes annosus, was reported for the first time on white fir (Abies concolor) in Colorado, 129
leaf blight of cucumber, caused by Corynespora cassiicola, was found in Mexico, 599
Pestalotiopsis versicolor leaf spot, found on Mimusops elengi, in Sagar, India, 806
Pierce's disease, of grape; first report of this disease in tropical America, in Costa Rica, 788
Rhabdocline needlecast, caused by Rhabdocline pseudotsugae found on Douglas-fir for the first time in Wisconsin, 626
rusts:
fuchsia rust, caused by Pucciniastrum epilobii, was found in Hawaii for the first time, 136
Puccinia psidii is the cause of a rust on allspice (Pimenta dioica) in Florida; a first report of this organism in the U. S., 510
sugarcane rust (caused by Puccinia melanocephala):
found in Dominican Republic, Jamaica, and Puerto Rico, 253
identified in Puerto Rico, 256
reported for the first time from Australia, 822
western gall rust, caused by Endocronartium harknessii, is reported for the first time in North Dakota on ponderosa and Scots pine; its presence in isolated planted trees suggests that it was introduced on infected nursery stock, 432
Scleroderris canker, caused by Gremmeniella abietina; a first report of G. abietina in Maine, on Pinus resinosa, 194
Scytalidium uredinicola, a mycoparasite, was found on the western gall rust fungus (Endocronartium harknessii) in Alberta, Canada, 512
seedborne microorganisms reported for the first time from Ethiopia on Ethiopian-grown soybean and chickpea, 616
Septoria leaf spot, on reed canarygrass in Pennsylvania; reported for the first time from the Eastern United States, 796

New distribution of: (continued)
southern corn leaf blight, caused by Helminthosporium maydis, was found in India for the first time, 419
strawberry latent ringspot virus, was found in parsley seedlings in California; this is the first reported occurrence of this virus in the U. S., and in parsley, 142
Striga gesnerioides (cowpea or tobacco Striga), was found in Florida on two leguminous species introduced from the Old World; this is a first record of this potentially harmful root parasite in Florida and in the Western Hemisphere, 251
tomato spotted wilt virus, on gladiolus in Australia, 345
Venturia inaequalis, the apple scab fungus, confined for almost 45 years in Kashmir Valley, India, has now been found in Himachal Pradesh, another major apple-growing area in India, 156
web blight and collar rot of cowpea, caused by Rhizoctonia solani, was found in Kerala, India, 410
New hosts of:
Armillaria mellea, some previously unreported hosts in California, 494
cassia mild mosaic virus, on Cassia sylvestris, a cerrado native plant in Brazil, 501
Drechslera sp., on Salvinia auriculata, an aquatic fern in Brazil, 154
Meloidogyne naasi, was found on four leguminous weeds in Italy, 644
powdery mildew and Cylindrocladium avesiculatum were found on Leucothoë axillaris, 358
Radopholus similis: several Areca species were found to be new hosts, 433
Scytalidium uredinicola, a mycoparasite, was found on the western gall rust fungus, Endocronartium harknessii, in Alberta, Canada, 512
Sphaeropsis tumefaciens, found on Schinus terebinthifolius (Brazilian peppertree), 786
strawberry latent ringspot virus, was found on parsley, 142
tomato ringspot virus: this is the first isolation of this virus from dogwood (Cornus florida), 529
Nicotiana:
spp.: announcement of the availability of new manual, "Nicotiana, Procedure for Experimental Use," 436
Nicotiana (continued)
tabacum:
blue mold:
applied as a spray or single soil treatment, metalaxyl (CGA-48988) provided excellent control of the blue mold fungus, Peronospora tabacina, on tobacco in Greece, 63
metalaxyl (CGA-48988) as a single soil drench controlled blue mold on tobacco in Australia, 212
nematodes and mycorrhizal fungi: in a survey of north Florida flue-cured tobacco fields, Meloidogyne javanica was more widespread than expected, and the two predominant mycorrhizal fungi were Acaulospora trappei and Gigaspora spp., 952
virus: pepper veinal mottle virus was isolated from tobacco in Nigeria, 161
Nilaparvata lugens: 523

Oats:
stem rust: races of Puccinia graminis f. sp. avenae in the United States during 1978, 748
virus: barley yellow dwarf caused more reduction in yield in early-infected oats than in late-infected oats, in a glasshouse study, 315
Ohia (Metrosideros collina ssp. polymorpha) ohia is moderately susceptible to Phytophthora cinnamomi in Hawaii, whereas most endemic plant species were moderately to highly tolerant to the pathogen, 602
Oidiopsis taurica: 864; 1087
Oidium:
begoniae: 919
erysiphoides: 864
Oleander (Nerium oleander):
an isolate of Phoma exigua caused severe dieback of oleander in a production nursery in southern California, 499
the pathogenicity of Sphaeropsis tumefaciens to Schinus terebinthifolius in Florida can be important economically because the fungus is pathogenic to several valuable ornamentals including oleander, 786
Olive: Verticillium dahliae was found to be the main causal agent of olive wilt in Greece and disease intensity was greatest in newly established orchards, especially

Olive (continued)
those previously planted or intercropped to cotton or vegetables, 931
Olpidium brassicae: 10
Oncometopia sp.: 788
Orange (see Citrus)
Orobanche spp. (broomrape): five species of this parasitic plant occur in Jordan and cause severe infestation of many economic crops, 1025
Oryza (see Rice)
Oxidant (see Pollution)

Palm:
coconut (Cocos nucifera): softening and whitening of leaflets of the spindle with necrotic spots followed by rotting, and interveinal yellowing in leaves of the middle whorl were closely associated with morphological symptoms of root (wilt) disease, one of the three major destructive diseases in coconut, 461
fan (Washingtonia robusta): a collar rot of container-grown fan palms was caused by a Phytophthora, 718
Pandanus utilis (screw pine): this monocot, in the same subclass as palms, was found with mycoplasmalike bodies in the sieve elements and with phloem degeneration in declining Pandanus in Florida in areas heavily affected by lethal declines of coconut and other palm species, 911
Parasitic flowering plants:
Cuscuta: 4 species found in Jordan, 1025
mistletoe: 189; 532; 1025; 1060
Orobanche: 5 species of Orobanche were found in Jordan severely infesting many cultivated and wild plants, 1025
Striga gesnerioides: this is a first record of this species, commonly called cowpea or tobacco Striga, in Florida and in the Western Hemisphere, 251
Paratrichodorus minor: 113
Paratylenchus sp.: 1063
Parsley (Petroselinum crispum): strawberry latent ringspot virus was identified in seedlings from three seedlots of parsley in California; this is a first report of this virus in parsley, 142
Pathogenicity: Sclerotium rolfsii was pathogenic to 52 of 60 tropical forage legumes in greenhouse tests in Colombia, S. A., including lines of Stylosanthes capitata, 739

Pea:
incorporation of $CaCO_3$ in soil did not suppress pea root rot in a commercial canning pea cultivar in soil heavily infested with Aphanomyces euteiches, 175
metalaxyl (CGA-48988) reduced seed rot of pea caused by Pythium ultimum in the greenhouse and in the field, 725
virus:
pea seedborne mosaic:
for detection of pea seedborne mosaic virus, precipitin band formation on 0.8% Bacto agar was more intense than on the "standard" medium containing 0.8% special Noble agar, 278
of 1,835 plant introduction lines of Pisum sativum at Geneva, N. Y. tested for presence of PSbMV, 23% were infected; the virus was introduced primarily after 1969 on lines from India; however, 23 lines principally from India contained new sources of PSbMV-immune germplasm, 95
Peach:
bacterial canker: artificial inoculation of peach rootstock seedlings in the field with Pseudomonas syringae is a reliable method for evaluating various peach rootstocks for resistance to bacterial canker, 364
bacterial spot: injections of oxytetracycline into trunks of 'Suncrest' peach trees effectively controlled bacterial spot caused by Xanthomonas pruni, 1
Cytospora canker: a sample survey of Colorado commercial peach orchards in 1978 indicates that about 65% of all bearing age trees have at least one Cytospora canker; nearly 40% were associated with winter injury and 57% with pruning wounds, 685
nematodes: Macroposthonia xenoplax populations were not correlated with the susceptibility of peach rootstock seedlings to Pseudomonas syringae, 364
peach yellow leaf roll strain of X-disease: leafhoppers Scaphytopius nitridus and Acinopterus angulatus transmitted the causal agent from celery to celery, 549
Peanut:
nematodes: peanut seeds heavily infested by Aphelenchoides arachidis in Nigeria had higher levels of

Peanut (continued)
fungal infection and reduced seedling emergence, 464
rust (caused by Puccinia arachidis):
development of rust on three peanut cultivars was studied over 3 seasons in Karnataka State, India; infection developed earlier in SB-XI than in S-206 and Spanish Improved, 692
of all peanut varieties grown in Kenya, only Homa Bay appears to have some field resistance to rust; because of the seedborne nature of the disease, restriction on movement of seed material from affected to nonaffected areas is indicated, 591
Sclerotium rolfsii:
herbicide dinitramine was more effective than Trichoderma harzianum in reducing incidence by S. rolfsii in peanuts and tomato in a naturally infested soil, 823
solar heating of the soil in Israel with clear polyethylene sheets the summer before planting peanuts in the spring significantly reduced the percentage of plants killed by S. rolfsii and colonization of pods by Aspergillus; total yields and peanut quality were also increased, 1056
Pear:
fire blight: a historical analysis of fire blight epidemics in the Central Valley of California during the last 75 years indicates that the mean temperature criteria (high mean temperatures early in bloom) followed by several rains are two of the most important parameters in fire blight outbreaks, 545
scab: carbendazim injected into tree trunks in fall translocated to the crown and branches, but the fungicide did not prevent early scab infection of young pear leaves, 376
Peloribates sp.: 1016
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Phakopsora pachyrhizi: 931
Phalaris arundinacea (reed canarygrass): the morphology, pathogenicity, host range, and symptomatology of a Septoria isolate from Pennsylvania that causes a leaf disease; this is the first report of a Septoria disease on this host in the Eastern U. S., 796
Phaseolus vulgaris (bean):
air pollution:
33 bean cultivars were assessed for sensitivity to ozone and SO_2 singly and in combination in controlled exposures and to oxidants in the field; highest correlation of sensitivity to air pollution existed between field-grown plants and those exposed to ozone alone in the laboratory, 478
387 cultivars and breeding lines of snap beans were evaluated for resistance to oxidant (ozone) air pollution in field plots, at Beltsville and Salisbury, Maryland; 270 were classified as resistant, 273
common blight (caused by Xanthomonas phaseoli): transmission studies showed that blight-tolerant bean cultivars can transmit blight bacteria systemically through seeds and the seeds can be infected without visible signs, 955
nematodes: film mulch alone more than doubled yields of polebeans over nontreated plots and yields were increased three-fold in film-mulched plots treated with DD-MENCS or MBR-CP over non-mulched control plants, 360
Phakopsora pachyrhizi (soybean rust fungus): garden beans and lima beans were found infected with P. pachyrhizi in Puerto Rico, 931

Phaseolus vulgaris (continued)
pod rot and seed rot of snap bean caused by Fusarium semitectum in Brazil: serious economic losses occur under prolonged humid conditions during growth, 84
Phellinus weirii: 262; 580
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Philodendron selloum: bacterial leaf blight: the most consistent results for evaluating disease development caused by Erwinia chrysanthemi were obtained by wounding leaves with a frogging device, inoculum concentrations of 5 x 10^7 and 2 x 10^8 colony-forming units/ml, and temperatures between 22-38°C, 578
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Phytotoxicity: sugarbeet: decomposition of incorporated cover crops of wheat and oats in southern Washington caused stand losses to sugarbeet seedlings from 17 to 30%, 882
Picea (spruce): eastern dwarf mistletoe: 233 roadside miles of spruce cover type in 28 counties in the Lower Peninsula of Michigan were surveyed for Arceuthobium pusillum; it was present in less than 1% of the spruce stands, 532
Pimenta dioica (allspice): Puccinia psidii, a rust not previously reported in the U. S., was found in Dade County, Florida on P. dioica, 510
Pineapple (Ananas comosus):
fruit collapse, caused by Erwinia chrysanthemi: in Peninsular Malaysia the commercial canning varieties Singapore Spanish and Masmerah are highly susceptible, but it is hoped that through breeding and selection resistant cultivars can be obtained, 170
fruit rot: the importance of pineapple flowers as primary infection sites for Fusarium moniliforme var. subglutinans, the causal agent of pineapple fruit rot, 655
Pinus:
contorta (lodgepole pine): comandra blister rust: a 5-year study on Cronartium comandrae branch cankers on young Pinus contorta in Wyoming showed an average yearly rate of growth proximally of 1.8 cm; 95% of branch and stem cankers were within 1 m of ground level, 916
elliottii (slash pine):
control of fusiform rust on pine seedlings was achieved with 8 of 13 adjuvants in combination with ferbam when 5 cm of simulated rain fell during the 2-day interval between spray application and inoculation with Cronartium quercuum f. sp. fusiforme, 507
significant mortality is associated with pitch canker, caused by Fusarium moniliforme var. subglutinans in Florida, 1023
nigra: needlecast of Pinus nigra, caused by Naemacyclus minor, is reported from Pennsylvania, 994
ponderosa:
air pollution: P. ponderosa showed significant reductions in radial growth increments in plots exhibiting severe oxidant injury in the San Bernardino National Forest, California, 1038
Diplodia pinea: is the cause of tip blight and slight dieback on P. ponderosa for the first time in North Dakota, 464
Gloeophyllum trabeum: spore germination of G. trabeum on Pinus ponderosa may be influenced by the mass of the wet wood sample; response on thin wood sections may not apply to larger samples, 30
radiata (Monterey pine): "terminal crook," caused by Colletotrichum acutatum f. sp. pinea, was identified for the first time in Chile, 121
resinosa (red pine):
Gremmeniella abietina (= Scleroderris lagerbergii):
European race of G. abietina is reported as the cause of lower branch mortality of 15-year-old red pines in New Hampshire, 995
stem cankers and green staining of

Pinus (continued)
the wood beneath the bark typical of Scleroderris canker were found on P. resinosa in Maine, 194
spp.:
Fomes annosus: 39 pine stands in the Fremont National Forest, Oregon were surveyed for stump infection by Fomes annosus; only 2% were colonized, 542
pine wilt: a nematode, Bursaphelenchus lignicolus, is the cause of pine wilt reported for the first time from Missouri; Austrian and Scotch pines have been killed and shortleaf and white pines died after greenhouse inoculation, 904
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fusiform, caused by Cronartium quercuum f. sp. fusiforme: systemic fungicide SN43410 effectively controlled fusiform rust on pine seedlings (P. elliottii and P. taeda) in greenhouse tests but not in nursery trials, whereas ferbam, a nonsystemic fungicide, was effective in both trials, 270
western gall rust, caused by Endocronartium harknessii:
a mycoparasite, Scytalidium uredinicola, was recognized in Alberta, Canada, on the western gall rust fungus, E. harknessii, that was parasitizing P. banksiana and P. contorta; this is the first record of this fungus in Canada, 512
western gall rust was reported for the first time in North Dakota on Pinus sylvestris and P. ponderosa, 432
strobus (eastern white pine): severity of symptoms on needles of selected 15-year-old pine trees at two locations in New Hampshire was related to peak atmospheric oxidant levels and to tree tolerance to oxidants, 177
taeda (loblolly):
fusiform rust, caused by Cronartium quercuum f. sp. fusiforme: in artificial screening of loblolly pine seedlings for resistance, compositing equal amounts of aeciospores from several galls was as effective as from single galls for separating families or seed sources for resistance to Cronartium quercuum f. sp. fusiforme, 454
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Piricularia grisea: 852
Pisum sativum (see Pea)
Plant disease data bank: for New Hampshire, 117
Plant introductions: the testing of pea (Pisum sativum) lines from the PI collection at Geneva, N. Y. revealed 23% infected with pea seedborne mosaic virus; however, some lines contained new sources of PSbMV-immune germplasm, 95
Pleospora sp.: 1060
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leaf spot disease caused by Bipolaris sorokiniana: inhibition of germ tube elongation and appressorium formation by fungicides are critical for effective control of this disease on 'Park' Kentucky bluegrass, 474
Pollution (air):
oxidants:
oxidant concentrations at two white pine seed orchards in New Hampshire were monitored for three summers; severity of symptoms on needles of selected 15-year-old white pine trees was related to peak atmospheric oxidant levels and to tree tolerance to oxidants, 177
six conifer vegetation plots were examined for loss of radial growth increment due to oxidant exposure in San Bernardino National Forest, California, 1038
ozone:
ethylene diurea at 1000 ppm plus 0.10% Triton-X applied weekly to foliage of laboratory-grown white ash and black cherry seedlings provided excellent protection against O_3-induced leaf injury at repeated O_3 exposures below .30 ppm, 320
of 387 cultivars and breeding lines of

Pollution (air) (continued)
snap beans tested for resistance to ozone, 270 were classified resistant, 86 as intermediate, and 31 as susceptible, 273
ozone (O_3) and sulfur dioxide (SO_2):
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of 33 bean cultivars exposed to O_3 and SO_2 singly and in combination in controlled exposures and to oxidants in the field, in general, those cultivars that were most sensitive in the field were also most sensitive in the laboratory, 478
sulfur dioxide (SO_2): seedlings of four maize hybrids and seven wheat cultivars were tolerant to low levels of SO_2 for up to 100 hours; however, maize was more tolerant than wheat, 468
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Populus:
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tremuloides (aspen):
a "drooping" malady of western aspen has been observed throughout the Rocky Mountain region; no cause is yet known, 923
the ability of Gloeophyllum trabeum to germinate on wet wood sections of aspen can be altered by the thickness of the wood sample, 30
Postharvest decay:
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blueberry:
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Postharvest decay (continued)
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citrus and sweet bell pepper: phosphoric acid plus dodecylbenzene sulfonic acid (PA+DSA) as a 1- or 2-minute drench exhibited only limited potential for control of Penicillium digitatum on citrus and none for Erwinia carotovora on sweet bell pepper, 753
Potato (Solanum tuberosum):
early blight (caused by Alternaria solani): of 44 potato clones tested, 10 clones with a high degree of late blight resistance showed field resistance to early blight in Idaho and Maine despite differing environmental conditions and inoculation techniques, 392
late blight (caused by Phytophthora infestans):
a noncomputerized forecasting program for late blight derived from Blitecast but modified to meet New Hampshire weather conditions, 21
bi-weekly applications of metalaxyl, after a late blight epidemic was in progress in New York, retarded epidemic development within 2 days, 970
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Powdery mildew (see Mildew)
Pratylenchus:
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Prayer plant (see Maranta leuconeura kerchoveana)
Prunus serotina (black cherry): ethylene diurea plus Triton-X gave good protection against ozone injury in laboratory-grown plants, 320
Pseudomonas:
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sp.: 157
syringae: 364
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tomato: 13
Pseudotsuga menziesii (Douglas-fir):
Rhabdocline needlecast, caused by Rhabdocline pseudotsugae, is reported for the first time in Wisconsin, 626
root disease in Douglas-fir plantations in Washington from Armillaria mellea and Phellinus weirii often occurs in patches resulting in understocked openings; mortality was significantly correlated with the number of infected stumps, 580
several species of Phytophthora cause root rot in forest tree nurseries in the Pacific Northwest; improvement in sanitation and drainage have raised the overall quality of stock, 607
Psophocarpus tetragonolobus (winged bean): root-knot nematodes Meloidogyne spp. severely damaged roots and tubers of winged bean in Ivory Coast, Africa, 194
Puccinia:
arachidis: 591; 692
graminis: 975
graminis f. sp. avenae: 748
graminis f. sp. tritici: 701
hordei: 764
melanocephala: 253; 256; 822
psidii: 510
recondita: 1048
recondita f. sp. tritici: 336; 699
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Pyrenophora graminea: 671
Pythium:
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sp.: 882
spp.: 490; 801
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Quarantine: virus indexing tests for viruses or viruslike agents in plant introductions imported into the U. S. as plants or vegetative propagations at the USDA Plant Quarantine Facilities and cooperative programs revealed that 50% of 1,913 accessions collected from foreign sources indexed positively for one or more agents, 775
Quercus palustris (pin oak): was a nonhost of Verticillium dahliae, 328

Radopholus similis: 433; 456; 663
Red currant (see Ribes rubrum)
Reed canarygrass (see Phalaris arundinacea)
Resistance:
vertical and horizontal: in tests with pepper lines with known horizontal resistance or vertical resistance, or both, horizontal resistance to bacterial spot of pepper resulted in a reduced disease rate compared with vertical resistance; vertical resistance, with or without horizontal resistance, resulted in significant decreases in disease levels and increases in yield despite vertical mutability of the pathogen, 332
Resistance of:
barley cultivars Betzes, Erbet, Shabet, and Steptoe to barley stripe disease, 671
celery to Fusarium oxysporum f. sp. apii, 165
loblolly pine to Cronartium quercuum f. sp. fusiforme, 454
potato (Solanum tuberosum) clones (from the USDA National Potato Breeding Program) to Alternaria solani, 392
Saintpaulia ionantha cultivars to Phytophthora rot, 382
Solanum melongena (eggplant) cultivars and introduction lines to Verticillium dahliae, 70
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to Septoria glycines, 242
tomato lines to isolates of Rhizoctonia solani, 716
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Rhizopus:
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Rhopalosiphum:
maidis: 426
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Rhynchosporium oryzae: 773
Ribes rubrum (red currant): foliar applications of phenamiphos eliminated Meloidogyne hapla from roots of red currant in Washington State, 639

Rice (Oryza):
bacterial blight: the kresek phase of bacterial blight of rice seedlings, caused by Xanthomonas oryzae, is associated with root injury; thus the unavoidable root injury in transplanting plays a significant role as a predisposing factor in kresek infection, 1007
bacterial foot rot: the causal organism, Erwinia chrysanthemi, was disseminated from infected iris plants to rice plants through irrigation water, 100
brown leaf spot disease, caused by Helminthosporium oryzae: two antifungal antibiotics, mycobacillin and versicolin, were evaluated in vivo against the disease; neither was as effective as copper oxychloride for control, 103
leaf scald, caused by Metasphaeria albescens, the perfect stage of Rhynchosporium oryzae, was found for the first time in the North East Hill States of India on naturally infected leaves, 773
sheath rot, caused by Acrocylindrium oryzae: three methods of inoculation were tested for reproducing the disease, 908
stem rot and sheath blight: stem rot, caused by Sclerotium oryzae and S. oryzae var. irregulare, and sheath blight, caused by Rhizoctonia solani, were present in all southwest Louisiana parishes surveyed, 220
virus:
dwarf disease: dwarf disease of rice, caused by the rice dwarf virus, was reported in Nepal for the first time; it was transmitted by Nephotettix nigropictus, 784
grassy stunt disease: in a study undertaken to determine virus-vector relationships and sources of resistance to grassy stunt disease of rice, cultivar IR 32 was resistant to GSV but several cultivars developed at IRRI, Philippines were susceptible, suggesting that different strains of GSV may exist, 523
rice ragged stunt: rice ragged stunt virus antiserum was used to show, by immunoelectron microscopy, that material with RRSV symptoms from Indonesia, Thailand, and India, as well as the Philippines, all contained RRSV, 445
Rice (continued)
rice tungro virus: 19 commercially-grown high yielding semi-dwarf rice cultivars showed variation in acquisition of rice tungro virus by the vector Nephotettix virescens, 855
Rosa spp.: wild rose plants from 4 of 17 collecting sites in western Oregon were infected with tobacco streak virus, but infection seemed unrelated to the nearness of cultivated Rubus, 441
Rots on:
Acacia koa: heart and root rot fungi associated with deterioration, 682
apple: collar and crown rots caused by Phytophthora spp., 147
bean: a pod, seed, and root rot caused by Fusarium semitectum, 84
cantaloup:
corky dry rot caused by Fusarium roseum 'Semitectum', 1080
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citrus: foot rot, caused by Phytophthora parasitica, 324
corn:
anthracnose stalk rot, caused by Colletotrichum graminicola, 26
ear rot, caused mainly by Fusarium moniliforme and Penicillium spp., 370
stalk rot, caused by several fungi, 227
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boll rot:
caused by Fusarium, 288
previously unreported boll rot fungus, Colletotrichum capsici, 626
cucumber: fruit rot, 482
Fremontia californica (flannel bush): crown rot and basal stem canker, 721
grape: grape black rot, caused by Guignardia bidwellii, 967
Helianthus annuus (sunflower): Rhizopus head rot, 833
Pacific madrone: annosus root rot, 844
pea:
Pythium seed rot, 725
root rot, caused by Aphanomyces euteiches, 175
pineapple: fruit rot, caused by Fusarium moniliforme var. subglutinans, 655
Pinus spp.: annosus root rot, 542
Pseudotsuga menziesii: root rots, caused by Armillaria mellea and Phellinus weirii, 580
rice:
bacterial foot rot, caused by Erwinia chrysanthemi, 100

Rots on: (continued)
sheath rot of rice, caused by Acrocylindrium oryzae, 908
stem rot, caused by Sclerotium oryzae and S. oryzae var. irregulare, 220
Solanum sodomaeum: foot rot, caused by Didymella lycopersici, 431
Soybean:
brown stem rot, caused by Phialophora gregata, 539; 1042
Phytophthora root rot, 628; 708
Phytophthora root and stem rot, 231
Stylosanthes capitata: root and stem rot, caused by Sclerotium rolfsii, 739
sugarbeet: Rhizoctonia root rot, 518
sweetpotato: root rot of stored sweetpotatoes, caused by Fusarium solani, 400
tomato: fruit rot, caused by Rhizoctonia solani, 716
Vigna unguiculata (cowpea): collar rot, caused by Rhizoctonia solani, 410
Washingtonia robusta (fan palm): collar and stem rot, caused by a species of Phytophthora, 718
wheat: common root rot, caused by Bipolaris sorokiniana, 811; 1020
Rottboellia exaltata (itchgrass): Curvularia cymbopogonis is reported for the first time in the U. S. as a pathogen of itchgrass (a serious weed of soybeans) in southern Louisiana, 642
Rotylenchulus reniformis: 663; 827
Rotylenchus sp.: 267
Rubus:
hawaiiensis: a plant species endemic to Hawaii was highly tolerant to Phytophthora cinnamomi in greenhouse soil inoculation tests, 602
leucodermis (western black raspberry): was negative in serological tests for tobacco streak virus, tomato ringspot virus, and raspberry bushy dwarf virus in a survey for occurrence of viruses in some wild Rubus and Rosa species in Oregon, 441
procerus (wild Himalaya blackberry): no viruses were detected in plants from 10 locations in western Oregon, 441
ursinus var. macropetalus (wild blackberry): tobacco streak virus was found in wild trailing blackberry at half of the 26 locations where plants were collected in western Oregon; black raspberry necrosis virus was found in one location, 441
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virus: recommended virus-indexing procedures for new USDA Rubus cultivars, 848
Rusts on:
barley: caused by Puccinia hordei, 764
Coffea arabica: caused by Hemileia vastatrix, 844
corn: caused by Puccinia sorghi, 1012
Crotalaria juncea: caused by Uromyces decoratus, 344
endemic leguminous hosts of soybean rust: caused by Phakopsora pachyrhizi, in Puerto Rico, 931
fuchsia: caused by Pucciniastrum epilobii, 136
oats: caused by Puccinia graminis f. sp. avenae, 748
peanut: caused by Puccinia arachidis, 591; 692
Pimenta dioica: caused by Puccinia psidii, 510
Pinus:
Cronartium:
comandrae: 916
quercuum f. sp. fusiforme: 270; 454; 507
ribicola: 354
Endocronartium harknessii, 432
Populus spp.: caused by Melampsora medusae, 368
sugarcane: caused by Puccinia melanocephala, 253; 256; 822
wheat:
Puccinia:
graminis f. sp. tritici: 701; 975
recondita: 1048
recondita f. sp. tritici: 336; 699

Saintpaulia ionantha (African violet):
nematodes: aldicarb and oxamyl were effective in control of foliar nematode Aphelenchoides ritzemabosi in African violet, 378
Phytophthora rot: 'New York', and 'California' of the Optimara series and 'Kathy' of the Melodie series were the most resistant to Phytophthora nicotianae var. parasitica in greenhouse tests, 382
Salvinia auriculata (an aquatic fern): a leaf spot on wild Salvinia auriculata plants growing in the reservoir system of Vicosa, Brazil was caused by Drechslera sp.; this is apparently a first report on this host, 154
Sapstreak disease: of sugar maple, caused by Ceratocystis coerulescens, was found in Lewis County, N. Y., a major maple syrup-producing area, 436

Scab:
apple (caused by Venturia inaequalis):
a simple, quick technique for determining apple scab infection periods, 199
effect of overtree misting on ascospore maturity and release, 108
on Cotoneaster bacillaris, in India, 156
citrus (caused by Elsinoë fawcetti): control with benomyl, 553
pear (caused by Venturia pirina): effects of carbendazim trunk injection for control, 376
Scaphytopius:
fuliginosus: 47; 309
nitridus: 549
Schinus terebinthifolius (Brazilian pepper-tree): is a new host for Sphaeropsis tumefaciens, in Florida; this could be economically important because this host plant grows near nurseries where several ornamental hosts are grown, 786
Schizaphis graminum: 426
Sclerospora sorghi: 154; 905
Sclerotinia:
cepivorum: 349
homoeocarpa: 852
minor: 349
rolfsii: 823; 1056
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Sclerotium:
hydrophilum: 220
oryzae: 220
oryzae var. irregulare: 220
rolfsii: 220; 739
Scolytus ventralis: 262
Scutellonema brachyurum: 688; 859
Scytalidium uredinicola: 512
Seed transmission: of Pseudomonas pseudoalcaligenes subsp. citrulli in watermelon seeds, 437
Seed treatments:
captan, thiram, chloroneb, or ETMT-PCNB-treated asparagus seed did not significantly improve emergence of asparagus planted in western Michigan soils infested with Fusarium oxysporum f. sp. asparagi and F. moniliforme, 612
carboxin and thiram: fungicide treatment of barley seed resulted in significant stand and yield responses in 3 years of testing, 88
ethylene oxide and ethanol: were used to surface disinfest soybean seeds for selective recovery of Bacillus subtilis, 887
ETMT, PCNB, fenaminosulf, benomyl, chloroneb, and combinations:
Seed treatments (continued)
for cotton seedling disease control; performance of the seed treatments was influenced by the kinds and populations of seedling pathogens in the soil, 246
HCl: soaking pumpkin seed infected with Xanthomonas cucurbitae in a 1 : 20 dilution of HCl containing a nonionic spreader-sticker for 1 hour eliminated seed transmission by the bacterium, 537
metalaxyl (CGA-48988): applied directly to pea seeds or by acetone infusion, metalaxyl significantly reduced seed rot of pea caused by Pythium ultimum, 725
polyethylene glycol: lettuce mosaic virus was inactivated in polyethylene glycol-imbibed seed at 40°C for 6 to 10 days, 125
Septoria:
glycines: 242
nodorum: 699
sp.: 796
Shattercane (Sorghum bicolor): Sclerospora sorghi was found on shattercane in Nebraska causing downy mildew, 154
Smut:
false smut: false smut, caused by Ustilaginoidea virens, was found on corn in India for the first time, 996
flag smut: of wheat, caused by Urocystis agropyri; teliospores of the fungus germinate more readily if they age about 2 years, 841
Solanum
melongena: (see Eggplant)
sodomaeum: this wild Solanum species, used as a Verticillium rootstock to prevent Verticillium wilt of eggplant, in Tunisia, developed a foot rot caused by Didymella lycopersici, 431
spp.: results of virus detection tests for 424 plant introductions of Solanum species from 23 countries, to the U. S., 1968-1978, 775
tuberosum: (see Potato)
Solar heating: soil that was naturally infested with Sclerotium rolfsii in Israel was mulched for 6 weeks during July-August with transparent polyethylene sheets and planted to peanuts in the spring; a significant decrease in percentage of diseased plants, rotten pods and weeds resulted, and an increase of 52.8 and 123.5% in total yield and quality, 1056

Sorghum:
bicolor:
downy mildew, caused by Sclerospora sorghi (= Peronosclerospora sorghi):
in a host range study of an American isolate of Peronosclerospora sorghi, all susceptible species were members of three genera, Sorghum, Andropogon, and Zea, 650
Sclerospora sorghi was identified on sorghum and shattercane in Nebraska, 154
six new county records have been established in Kansas with an outbreak in 1978 of downy mildew, 905
bicolor var. feterita: Trichometasphaeria turcica isolated from grains of S. bicolor var. feterita were found to act as root pathogens causing severe wilting when young sorghum seedlings were inoculated with spores, 424
Soybean:
bacterial blight: 117 seedlots were assayed for presence of Pseudomonas glycinea (cause of bacterial blight) and Xanthomonas phaseoli var. sojensis (cause of bacterial pustule) by extraction or the broth enrichment technique, 79
brown stem rot (caused by Phialophora gregata):
an efficient, objective, and practical survey method for brown stem rot of soybeans was designed and tested in northern Iowa counties in 1977; the day and time for collection, assembling and examination of specimens were set precisely to the hour to obtain objective survey data for a wide area within a limited time period, 539
soybeans with resistance to brown stem rot showed significant yield advantages over susceptible cultivars; maximum yield advantages ranged from 30-34% in a field evaluation in Iowa, 1042
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Prepared by
Alonzo L. Ray, Jr. and Marguerite Benedict

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